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HISTORICAL AND PRACTICAL CONSIDERATIONS REGARDING EXPERT TESTIMONY.¹

NO one will deny that the law should in some way effectively use expert knowledge wherever it will aid in settling disputes. The only question is as to how it can do so best. In early times, and before trial by jury was much developed, there seem to have been two modes of using what expert knowledge there was: first, to select as jurymen such persons as were by experience especially fitted to know the class of facts which were before them, and second, to call to the aid of the court skilled persons whose opinion it might adopt or not as it pleased. Both these methods exist at least theoretically at the present day, though each has practically given place to the third and much more recent method of calling before the jury skilled persons as witnesses. No doubt, there are good historical reasons why this third method has survived, but they by no means justify its continued existence, and it is, as I conceive, in fact an anomaly fertile of much practical inconvenience.

The first method mentioned above was to impanel a special jury, which in this connection means a jury of persons especially fitted to judge of the peculiar facts upon which the particular issue at bar turns. The practice is certainly old, at least in one instance of like kind, the jury of matrons *de ventre inspiciendo*. Bracton² gives the form of the writ³ in which it is essentially the same as the actual practice even in this century, in 1838.⁴ Moreover, we find in the writ the reason for this peculiar procedure. The *legales*

¹ So far as concerns the attempt to trace the outline of the origin of expert evidence, I must acknowledge my great indebtedness for materials to Professor James B. Thayer, who has so much made the whole subject of evidence his own that no one can come into it without feeling, to a certain degree, a trespasser. It is but fair to say, however, that Professor Thayer is in no sense the sponsor of any of the conclusions in this article, historical or otherwise, and that I do not even know that any one of them would meet with his approval, however grateful to me might be such a result.

In regard to the material in Howell's State Trials, I cannot hope that I have found all of it. I have been over all the trials up to 1780 with more or less thoroughness, but cannot, of course, suppose that much has not escaped my notice.

² De Leg. lib. ii. fol. 69.

³ See, also, for a kindred Roman practice, Dig. lib. xxv. tit. 4.

⁴ Reg. v. Wycherly, 8 C. & P. 262.

et discretas mulieres per quas veritas melius sciri poterit shall see the woman whose condition is to be examined and are to satisfy themselves by certain specified methods, *quibus inde melius possit certiorari utrum prægnans sit necne*. True it is we do not learn from Bracton to what extent what the jury said was binding. They did not speak of the whole issue between the parties, and the procedure was incidental merely to the issuance of a writ to the lord to let into possession one tenant or another, but I cannot think that this is a distinction of any significance; the fact remains that a jury of persons supposed to be especially skilled was summoned, and their conclusion was in fact followed by the court, or at least formed an element as fact in its decision. This practice we know has continued even to this century.¹

But the writ *de ventre inspiciendo* was by no means the only case of a jury of persons peculiarly qualified upon the issue. The custom was not only known but exceedingly common in the city of London throughout the fourteenth century in trade disputes.²

Many of the cases are informations by the supervisors of the different guilds who, in accordance with their oaths, brought before the mayor offenders against the trade regulations. The mayor then summoned a jury of men of that trade, and their verdict decided whether the defendant had offended the trade regulations, and upon it the mayor gave sentence.³

But this was not the only case. Often it happened that either the public prosecutor or some private person, either individually or through the public prosecutor, would present to the mayor his grievance in that he personally had suffered false usage at the hands of tradesmen, *e. g.* selling him putrid meat or bad wine. In these cases the mayor would likewise summon persons of the trade of the man accused, as being well acquainted with the facts,

¹ Willoughby's Case, Cro. Eliz. 566 (1597); Reg. v. Wycherly (*supra*).

² These cases are to be found in Henry Thomas Riley's Memorials of London and London Life in the 13th, 14th, and 15th Centuries. Longmans, Green & Co., 1868.

³ The following are some instances: —

Fishing nets with meshes smaller than those required by the trade ordinance: Riley, pp. 107 (1313), 135 (1320), 214 (1343), 219 (1344), 220 (1344), 483 (1385), 486 (1386).

Improper tanning of hides: Riley, pp. 135 (1320), 420 (1378).

False tapestry: Riley, pp. 260 (1350), 375 (1374).

Improper hats and caps: Riley, pp. 90 (1311), 529 (1391).

False pewter vessels: Riley, p. 259 (1350).

False gloves: Riley, p. 249 (1350).

False wine: Riley, p. 318 (1364).

and their verdict would decide and the mayor direct sentence accordingly.¹

These cases at least show that in an urban community, where alone for the most part questions involving special skill would come up, the practice was well established in the fourteenth century of having the issue actually decided by people especially qualified.

The special jury continued as an institution of England. So we find in 1645² that the court summoned a jury of merchants to try merchants' affairs "because it was conceived they might have better Knowledge of the Matters in Difference which were to be tried, than others could, who were not of that Profession."

Blackstone speaks of the special jury as still an existing institution, though it had then for the most part been limited to cases where a "struck" jury is demanded owing to a supposed bias in the sheriff; a form of impanelling a jury which went under the same name as the jury of experts, and which exists to-day.

I mention this form of using expert knowledge, not because it is a feasible or practical means of solving our present question, but to show that our present method of using experts as witnesses was not the earliest or the only means used.

The second method mentioned above was to summon to the advice of the court certain skilled persons to help it out of its difficulties. I wish particularly to distinguish here between what we should to-day call matter of fact for the court and matter of fact for the jury. The cases I shall mention are those in which during a procedure incident to the conduct of a case there arose some question of fact which the court had to decide. That is, the court, having no rule of law to administer and not intending to establish any, had a mere question up of the decision of something in that particular case, and summoned experts to help it where its knowledge was lacking.

In 1345,³ in an appeal of mayhem, the court summoned surgeons from London to aid them in learning whether or not the wound

¹ The following are instances of this:—

Selling putrid victuals, the prosecution being apparently public, no complainant appearing in the case: Riley, pp. 328 (1365), 408 (1377), 448 (1381), 471 (1382), 516 (1390).

Selling putrid victuals, private prosecution: Riley, pp. 226 (1351), 464 (1382).

Malpractice by a surgeon, whether the prosecution was public or private does not appear: Riley, p. 273 (1354).

² Lilly's Practical Register, ii. 154.

³ Anonymous, Lib. Ass. 28, pl. 5 (28 Ed. III.).

was fresh. This was, however, in deciding whether or no the appellant should be allowed to go to trial at all. In 1506¹ it was discussed collaterally by the court and left in doubt whether the question of the appellant's wound, as permanent or not, was a proper question for the court or for surgeons. Perhaps the learning in the procedure of appeal of battle had become somewhat archaic in 160 years.

Again, in construing a bond in 1494,² which contained certain doubtful words, the court called to its assistance certain "masters of grammar," who incidentally failed to help it much. Again, in 1555,³ we find the court saying that it is accustomed to call in grammarians to help it interpret the pleas before them when the court's Latin halts a little. The same usage became well established in the interpretation of commercial instruments,⁴ and in the eighteenth century extended itself, as we know, not only from decisions made by the court upon the facts, but even to the rulings it made upon points of law. For example, Lee, C. J., in 1753,⁵ charged the jury upon the liability of the parties in accordance with the opinion of certain merchants who had testified.

Lord Hardwicke also ruled in accordance with the views of the reputable merchants whom he summoned.⁶

Even Lord Holt, before deciding the celebrated case of *Buller v. Crips*,⁷ asked the opinion of London merchants as to the effect of refusing negotiability to promissory notes.⁸

The real question that arises is how to put at the disposal of the jury the knowledge of experts in the decision of the issue. This, though a kindred question, should be sharply distinguished.

Before considering this question we must, however, try to discriminate between an expert witness and any other. First it must be remembered that an expert witness may have observed the actual facts upon which the issue turns; then he is able to testify to them as well as to his inference from them, and he may be therefore both a common and an expert witness in one. But it is not as a witness of facts at all that his position is peculiar; it is because as an expert witness he is allowed to testify to his con-

¹ Anonymous, 21 H. VII. 33, pl. 30.

² Anonymous, 9 H. VII. 16, pl. 8.

³ *Buckley v. Thomas*, 1 Plow. 118.

⁴ For such a case in 1649, see *Pickering v. Barkley*, Styles, 132.

⁵ *Fearon v. Bowers*, 1 H. Black, 364, note a.

⁶ *Ekins v. Macklish*, Ambler, 184 (1753), and *Kruger v. Wilcox*, Ambler, 252 (1755).

⁷ 6 Mod. 29 (1703).

⁸ See, also, a late case: *Chauraud v. Angerstien*, Peake, 43 (1791).

clusion from the facts, which he has either himself observed or which are in evidence from the testimony of others. His position is only peculiar in that a common witness is forbidden to testify to conclusions, and the history of the origin of expert witnesses must necessarily be simply the history of the exception in his favor to the rule that witnesses shall testify only to facts and not to inferences.

This is better explained by considering briefly the rise of the rule as to conclusions. It is common learning to-day that originally and indeed for many years the jury had no witnesses present before them at all. They went about before or during the trial informing themselves as they might of the facts at issue. Not until the middle of the fifteenth century was even the practice of summoning witnesses well settled as an incident to the trial, and it was still later that any compulsory process became available.¹

That the rules of evidence are merely certain regulations to govern the evidence which the jury shall hear and that they are the offspring of the judicial control of the verdict, Mr. Thayer has made entirely clear. But these rules grew up but slowly and through the decision of judges, gradually eliminating certain material from the mass of what witnesses might say in court.

The rule that a witness shall not testify to mere opinion or conclusion is such a rule, and its origin no doubt was, if we could trace it, due to a gradual recognition by successive judges of the advantage of curtailing the trial and simplifying the issue by leaving out redundant matter. I call this redundant because in fact the opinion of the witness upon the issue can have no useful bearing on the case, and trenches on the jury's function. It is the jury that should form the opinion, make the conclusion and say truly — *vere dicere* — the fact, not the witness; he merely says what he knows. Therefore this rule of evidence — if in view of this it may be properly called such — is somewhat different from those which shut off certain facts actually probative of the issue. Moreover, it was recognized comparatively early in the history of rules of evidence. For we find Vaughan, C. J., that great defender of the right of juries to go "on their own knowledge," well saying in Bushell's case in 1671 :² "The Verdict of a Jury and Evidence of

¹ Mr. James B. Thayer, in his Preliminary Treatise on Evidence at the Common Law, pp. 122-136, concludes that the practice became established about the middle of the fifteenth century, though it remained an unimportant incident of trials for some time thereafter.

² Vaughan, 142, 22 Car. 2.

a Witness are very different things, in the truth and falsehood of them ; a Witness swears but to what he hath heard or seen, generally or more largely, to what hath fallen under his senses. But a Juryman swears to what he can infer and conclude from the Testimony of such Witnesses by the act and force of the Understanding, to be the Fact inquired after, which differs nothing in the Reason, though much in the punishment, from what a Judge, out of various Cases consider'd by him, infers to be the Law in the Question before him." The distinction cannot be put more plainly.

Yet in 1622 it had been said¹ that a witness could testify to the very issue involved, that he knew it to be true, if another testify to the circumstances in detail ; *i. e.* the conclusion of the witness upon the very issue is admissible if supported by other evidence.

I cannot find any other cases in the seventeenth century which seem to illustrate the rule that the conclusions of a witness are inadmissible as such. The rule would seem to be one obviously necessary early in the history of the control by the courts of trials, and it is very likely that many cases exist which illustrate the rule, but I think it may fairly be said that in Vaughan's time the citation above quoted shows that the rationale of the rule was well grasped, even if it was not always enforced.

As to the exception to the rule in favor of expert witnesses, of course that could not exist until the rule did ; for if the exception proves the rule, *a fortiori* the rule is a condition to the existence of the exception. I can therefore only cite several cases in which expert witnesses did testify, finishing by some cases where their testimony was consciously admitted by the court as an exception to the rule regarding conclusions.

In *Alsop v. Bowtrell*,² 1620, certain physicians testified that it might well be that a woman bore a child forty weeks and nine days after her husband's death, and yet it be his child, for the time might be delayed by ill usage and lack of strength. And so the court, agreeing with the physicians, delivered to the jury that it might be so. The case involved the legitimacy of the child. I think it should be noted in this, the first case which I have found of real expert testimony, — by which I mean a case where the conclusions of skilled persons were submitted to the jury, — that the witnesses are not stated to have been called on either side ; and from the meagre report we have, they seem to have satisfied the court in the

¹ *Adams v. Canon*, Dyer, 53 b, note.

² Cro. Jac. 541.

first instance of the truth of their conclusion before the evidence went to the jury. The court finally found the general proposition to be true and delivered it as *datum* to the jury to use in their final conclusion.

In the Witches' case,¹ in 1665, Dr. Brown, of Norwich, was desired to state his opinion of the accused persons, and he was clearly of opinion that they were witches, and he elaborated his opinion by a scientific explanation of the fits to which they were subject. It did not appear in this case by whom Dr. Brown was called as a witness, and his position is doubtful for our purposes, though he spoke of a question of fact.

Rex v. Pembroke,² in 1678, is more instructive. This was a trial of murder, and the question was up as to the real cause of the deceased's death. Physicians were called on either side who testified under the examination of the attorney for the prosecution, or of the prisoner, both as to what were the causes of certain symptoms observed upon an autopsy they had seen and as to the general proposition as to whether a man can die of wounds without fever. It is true that the court took a hand in this evidence, but that is common enough to-day, and the only striking feature of the whole matter is in the fact that no one seemed to think it unusual. We must conclude from this that the rule excluding the conclusions of witnesses was not enforced often enough to make such a violation worth notice.

The same kind of case is found in the following year in Rex v. Green,³ where a physician is called for the prosecution and testifies that the deceased could not have died from certain wounds upon his body, as they gave no blood, but that he must have died from being strangled. Still another case of the sort is Rex v. Coningsmark,⁴ in 1682.

In Spencer Cowper's case,⁵ in 1699, the question was whether the deceased had been drowned. Certain surgeons testified that they had examined the body and found no water in it, so that it must have been dead when it entered the water. Other surgeons answered in general to certain hypothetical questions as to whether a drowned body full of water would sink. In addition sailors who had been in sea fights testified to the same questions, an interesting addition which would hardly be allowed to-day.

¹ 6 Howell, State Trials, 697.

³ 7 Howell, State Trials, 185; 186.

⁵ 13 Howell, State Trials, 1126-1135.

² Ib. 1337, 1338, 1340, 1341.

⁴ 9 Howell, State Trials, 21.

In the eighteenth century the practice was certainly well established, and numerous instances of it can be found.¹

In *Rex v. Heath*,² (1744), the court made a remark which is certainly significant of the general rule, though the exception to it was not noted. The trial was for perjury upon a former trial in ejectment, in swearing that Lady Altham had never had a child. The witness had testified that he had seen Lady Altham at one time with a "big belly." The counsel then asked:³ "What do you apprehend became of that big belly?" On objection the court (Irish K. B., Marley, C. J., Ward and Blennerhasset, JJ.) said: "The apprehension of a witness is asked where no other evidence can be had in capital cases; as where a witness is produced to prove a wound given, he is asked whether he apprehends that wound was the cause of death. That must be asked, for he cannot tell otherwise. It is the best evidence that can be had in that case. But as to a fact, if you make the apprehension of a witness necessary, it takes away all proof of fact."

I confess that the last sentence is altogether enigmatical to me, but as to the first it shows that conclusions were as nearly "inadmissible" as was at that time known. Because it must be remembered that all through the eighteenth century the rules of evidence were unknown in the strictness that we apply them. Thus Baron Gilbert in 1760⁴ lays it down that the only rule is that of the best evidence the case admits, and he would even admit hearsay when "corroborative" and not given as sole support of a fact;⁵ so also Buller's *Nisi Prius*.⁶

Further we find in the trial of Lord Ferrers for murder in 1760,⁷ where the defence attempted was that of insanity, that the admission of expert evidence was already subject to a rule we are now thoroughly familiar with, and one which presupposes, I think, considerable use of that form of testimony. Prior witnesses had testi-

¹ Below are the cases that I have been able to find from an examination of Howell's State Trials, the usual edition of 1824: *Rex v. Kidd*, 14 Howell, State Trials, 137 (1701); *Rex v. Heath*, 18 Howell, State Trials, 68, 69, 70, 71, 73, 84 (1744); *Rex v. Blandy*, 18 Howell, State Trials, 1138, 1139, 1159 (1744); *Rex v. Canning*, 19 Howell, State Trials, 523 (1754); *Rex v. Stevenson*, 19 Howell, State Trials, 860 (1759); *Rex v. Ferrers*, 19 Howell, State Trials, 939, 940, 941 (1760); this testimony was, however, as to madness, and was given by laymen. *Rex v. Byron*, 19 Howell, State Trials, 1207 (1776).

² 18 Howell, State Trials, 70.

³ *Ib.* 76.

⁴ Gilbert on Evidence, 2d ed. London, 1760, *passim*.

⁵ Gilbert on Evidence, p. 153.

⁶ Buller's *Nisi Prius*, p. 294b.

⁷ *Rex v. Ferrers*, 19 Howell, State Trials, 942-944.

fied to strange and supposedly insane acts of the defendant. A surgeon was then called and asked whether from all the facts he would say that the defendant was insane. The Crown counsel objected, and Lord Mansfield — the trial being of course before the Lords — directed the defendant that he might not put such a general question, but that if he would specify the precise facts, already in evidence, upon which he wished to base the surgeon's opinion, he doubted not that the Crown would not object. Whereupon the defendant put a number of questions based upon specific acts already in evidence, which the surgeon in each case testified were symptoms of insanity. To professional readers it may be in addition interesting to know that the jury, *i. e.* the Lords, seem to have preferred their own inference to the surgeon's, and convicted the defendant.

These are criminal cases, but in 1782, in a civil case before Lord Mansfield in K. B.,¹ a new trial was granted, because of the exclusion of the testimony of engineers as to their opinion of the cause of the filling of a harbor, alleged to be caused by a sea wall, which it was the object of the action to abate on information as a nuisance. It did not appear in this case whether or no the engineers had personally ever seen the wall or its effects, though perhaps it is fair to presume that they had. This case is, I believe, usually regarded as the first in which the point was raised.

In 1790, however, it was ruled by Lord Kenyon at *Nisi Prius*,² that experts might give what was merely opinion from facts in evidence, though Erskine, who was of counsel, took the point that their opinion was necessarily of less value than that of those who had seen the facts.

In 1795 in an edition of Gilbert on evidence prepared by Capel Lofft, an English barrister,³ on page 301, I find an interpolation — which does not exist in the second edition published in 1760 — entitled "Of proof by experts" as follows: "The Proof from the Attestation of Persons on their professional Knowledge, we may properly, with the *French Lawyers*, call Proof by *Experts*."

"In proportion as *Experience* and *Science* advances, the uncertainty and danger from this kind of proof diminishes. . . .

"In general it may be taken that where Testimonies of professional Men of just Estimation are *affirmative*, they may be safely credited; but when *negative*, they do not amount to a disproof of

¹ *Folkes v. Chadd*, 3 Doug. 157.

² *Thornton v. The Royal Exch. Ass. Co.*, Peake, 25.

³ Gilbert's "The Law of Evidence," edition of Capel Lofft, Dublin, 1795.

a charge otherwise established by various and independent circumstances."

This last seems to be a personal affirmation of Lofft's.

Finally Lord Ellenborough distinctly ruled upon the general question in 1807,¹ and that ruling will be the end for me of this historical comment, as that rule by him distinctly recognized the significance and bearing of the whole subject. The case was on a marine insurance policy, the defence being unseaworthiness. The defendant offered to call several eminent surveyors, who had not seen the ship, and who were to testify as to their opinion from facts in evidence. Garrow for the plaintiff objected that this was for the jury to decide from the facts, but was overruled, Lord Ellenborough saying: "As the truth of the facts stated to them was not certainly known, their opinion might not go for much; but still it was admissible evidence. The prejudice alluded to might be removed by asking them, in cross-examination, what they should think upon the statement of facts contended for on the other side."

There is one kind of evidence which is opinion evidence, and which ran along side by side with the cases I have mentioned, *i. e.* testimony from a comparison of hands, or from a conclusion drawn by the witness from his knowledge of former handwriting of the person supposed to have written the paper in controversy. It does not seem to me properly to concern our subject, though it is opinion evidence. There are instances, however, — and they have to-day become very common indeed, — when this kind of evidence is in the strictest sense expert, that is, where a comparison of documents is made by those peculiarly skilled in the comparison of hands. I have found no case of this earlier than 1792,² where post-office clerks testified as to whether a proposed will was in a natural or forged hand, and also as to the comparison between the document in dispute and a true memorandum.

Buller, J., in sustaining the evidence, cited *Folkes v. Chadd* (*supra*), and Lord Kenyon said he remembered a case where a decipherer gave an opinion without any grounds for it, which was enough to convict and hang the defendant. This was perhaps only a sporadic and unusual case,³ and Lord Kenyon's opinion remained doubtful thereafter. Professor J. H. Wigmore does not regard the practice as really settled until the middle of this century, and then by statute. In so far as this species of evidence is expert evidence,

¹ *Beckwith v. Sydebotham*, 1 Camp. 116.

² *Goodtitle v. Braham*, 4 T. R. 497.

³ J. H. Wigmore, 30 Am. L. Rev., note, p. 495 (1896).

therefore, I think it is safe to say it hinges on what I have already tried to trace historically, and is not to be connected with the rules as to handwriting or the subtleties relating to comparison of hands.

The upshot of this examination seems to be that the use of experts as witnesses existed when the present exclusive rules of evidence were not yet developed or enforced; that as the rule excluding the opinions or conclusions of witnesses took form, the use of experts being established and convenient, remained unaffected when other opinion evidence disappeared. What I have called the "exception" which expert evidence represents is therefore no more than a relic of the usage of an undeveloped age which had not so far differentiated witness from jury as rigidly to confine each to its function. The rise of expert testimony is no more than the gradual recognition of such testimony, amid the gradual definition of rules of evidence, as a permissible, because supposedly useful, archaism.

Having briefly considered the history of the present position of expert witnesses, the really practical question is whether it is the best way to use the information they can give. There are two things I wish to prove: first, that logically the expert is an anomaly; second, that from the legal anomaly serious practical difficulties arise.

As to the anomaly, there is perhaps no reason to expatiate much further. The expert is in effect not telling of facts at all, but of uniform physical rules, natural laws, or general principles, which the jury must apply to the facts.¹

At the expense of some formal logic I wish to try to analyze the processes involved in this whole question, because I think that the anomaly I assert can only so be proved. In our system of law the pleadings should reduce the dispute between the contestants

¹ I do not think it of importance here to attempt any absolute discrimination between fact and opinion. The distinction is in practice perfectly well observed, and it can serve no good purpose to deal with it at length. A comparatively slight acquaintance with formal metaphysics is enough to assure us that the apparently simplest "fact" is indeed a conclusion, involving in its affirmation an inference from certain impressions of the sense upon the assumption of a major premise, itself the creature of a past experience. At the risk of an irrelevant digression, I may say that in practice it appears to me we actually distinguish between so-called fact and opinion by merely a practical consideration, *i. e.* whether the inference is one which is within the fair range of dispute, or whether, given the impressions of sense, the inference from them is so self-evident as to make any attempt to question it frivolous. I call to witness here the common experience of every lawyer as to with how increasing rapidity one's questions approach the realm of "opinions" and "conclusions" as he approaches the issue in dispute.

to one or more propositions of fact, of which one side asserts the truth and which the other denies. For example, let us suppose a case of slander: A complains that B said he forged a note; B says the fact is that A did forge a note. This A denies. There is only one question of fact; did A forge a note? B seeks to prove it, A to deny it.¹ To prove this B will put in evidence ordinarily a number of facts from which he hopes that the jury will make the inference he wishes. For example, he will bring up H to say he saw A do it, F to say he heard A admit it, E to say that he, whose name appears on it, did not sign it, and so on. A will in turn bring up X to say that H was with him and far from A at the time, Y that F was mistaken in what he heard, Z that E had possession of the note with the signature on it.

The jury must answer the proposition by taking all these facts which have so come to their knowledge and applying to them the rules drawn from their common experience. Thus they will say: H is a brother of B's, X is a stranger to A. It is well known that a man's brother is more likely to lie for him than a stranger, therefore H is more likely to be lying than X, and therefore H did not see A forge the note. Again, F is a young man who was near A at the time, Y is somewhat deaf, and stood further away; a young man near by is more likely to hear truly than a deaf one; *ergo*, F heard truly what A said. So as between E and Z they will say, the mere fact of possessing a note is not in the general order of things much evidence that you signed it; at least where you deny you did. Lastly, they will say, where one is heard to admit he forged a note and where the supposed maker denies that he signed it, common experience tells us it was made by the one who admits it; this is the fact with A; *ergo*, A forged it.

In short, the major premise, *i. e.* that which consists of the general rule, the jury supply from their common knowledge; the minor premise, *i. e.* that which supplies the particular instance whose predicate is the subject of the major, the witnesses or other evidence furnish.

Now the trouble with the expert is that he takes the jury's place and contributes the major premise. For example, suppose the issue is the same as before, but B brings on M as handwriting expert, who says that whenever in two handwritings you find that the angle of inclination to the line is precisely the same, you may depend upon it, the same man wrote both. A puts on R, a phy-

¹ Strictly A's position is of course that B has not proved his proposition; this qualification we may disregard.

sician, who says that no man who has alcoholic tremor can hold a pen to write with, and that whoever has certain symptoms already in evidence, as those of A, has alcoholic tremor.

What should the jury do? Having no experience in the measurement of angles in handwritings, or, as we may hope, in alcoholic tremor and its effects and symptoms, they should take those generalizations into the stock of major premises which they apply to the facts, and using them, say whether A wrote the note or did not. Thus if they believe M, then, after measuring the angles in the note and in, say, the signature to the verification of the pleadings, if the angles are alike, they would conclude that the same hand wrote both; the angles are alike; *ergo*, the same hand wrote both. Or, with such symptoms A could not even hold a pen; he had such symptoms; *ergo*, he could not hold a pen, much less write.

Now the important thing and the only important thing to notice is that the expert has taken the jury's place if they believe him.¹ It is of course not necessary for the jury to accept the expert's opinion, but were it not really of possible weight with them, it would not be relevant, and if of possible weight, it is only because it furnishes to them general propositions which it is ordinarily their function and theirs only to furnish to the conclusion which constitutes the verdict.

So much, therefore, for the anomalous position of the expert witness. Whether it works any practical evil or not is a very different matter. There can be, in my opinion, no legal anomaly which does not work evil, because, forming an illogical precedent, it becomes the mother of other anomalies and breeds chaos in theory and finally litigation. No doubt, in our law under the supposed garb of equity and justice, much is constantly done no less anomalous, and I confess that to say of a thing in our law to-day that it is an anomaly is unfortunately to give it hardly any stigma, if a supposed immediate advantage is to be found from its existence. That the present position is not satisfactory to any one will, I believe, be admitted. True it is that some are found hardy enough

¹ It can hardly be necessary to say that as to the credibility of any witness there always must remain a question for the jury alone. They have to determine in each case the fractional coefficient of verity, to borrow from mechanics, and multiply the statements made before them by that fraction, before they can judge. Moreover in getting the personal equation of each witness, they shall use common sense or the general inferences of men under the circumstances, and will not be helped by any expert knowledge, at least only in rare cases, *e. g.* insanity or the malingering of insanity.

to support it,¹ but there are not many, and the criticism comes with great unanimity. I shall therefore try to point out the practical defects, as I believe necessarily inherent in the present system, hoping thereby to obtain a readier hearing than for any purely legal or logical difficulties.

The serious objections are, first, that the expert becomes a hired champion of one side ; second, that he is the subject of examination and cross-examination and of contradiction by other experts.

Enough has been said elsewhere as to the natural bias of one called in such matters to represent a single side and liberally paid to defend it. Human nature is too weak for that ; I can only appeal to my learned brethren of the long robe to answer candidly how often they look impartially at the law of a case they have become thoroughly interested in, and what kind of experts they think they would make, as to foreign law, in their own cases.

The main difficulty, the fatal difficulty, is, however, still further to seek, and lies in the logical fulfilment of the expert's position, as witness and not as adviser of the jury. The result is that the ordinary means successful to aid the jury in getting at the facts, aid, instead of that, in confusing them.

In the trial of an action or suit each party produces his witnesses and brings out from each witness certain facts the witness has observed. So far so good. The jury is in possession of any number of facts you will, all supposedly relevant to the inquiry. Cross-examination can be effective only in two ways : to bring out new facts, which does not change the function of the witness, or to contradict the witness's direct examination, which is itself no more than bringing out new facts which have inferential value in the final determination. Likewise when one witness contradicts another, the jury is still only getting new facts, new minor premises to be brought to test under the generalizations of common experience. In short all the methods of producing proof are simply directed to presenting all the diversified facts which can in any wise be relevant.

When an expert is on the stand what are the methods resorted to ? Quite the same as when it is a witness. He is first examined in chief by the side which calls him. Assuming he has no direct evidence of facts to give, he must be plied with hypothetical questions, at as great length and in as great detail as seems necessary.²

¹ See William L. Foster, 11 HARVARD LAW REVIEW, 169.

² May I not say a word here for the much abused hypothetical question ? As a mode of literature it is, no doubt, not to be commended, but I confess it seems to me

The object here is necessarily to supply such general propositions as shall be relevant to the issue ; *e. g.* whether under such and such a state of facts, the result favorable to one side or the other will usually or necessarily follow.

Assume that the expert has testified to a certain number of propositions expressing such general truths ; he is then handed over to the opposite side for cross-examination. There are two and only two possible efforts which the cross-examiner will make. First, he may seek to bring out other general propositions favorable to his contention ; second, he may seek to shake the validity of those already testified to. Similarly when it comes the turn of the opposite side to submit evidence, it has the same two possible objects, to introduce evidence showing the invalidity of what the opposite experts have said, or to bring out other general truths favorable to them.

The trouble with all this is that it is setting the jury to decide, where doctors disagree. The whole object of the expert is to tell the jury, not facts, as we have seen, but general truths derived from his specialized experience. But how can the jury judge between two statements each founded upon an experience confessedly foreign in kind to their own ? It is just because they are incompetent for such a task that the expert is necessary at all. Even where two supposititious propositions are not in direct conflict, the real reconciling grace which may lurk between them is not bestowed, save upon one familiar with the whole line of experience to which they belong ; and when the conflict is direct and open, the absurdity of our present system is apparent. The truth of either combatting proposition lies just in its validity as an inference from a vast mass of experience, not usually in any great degree that of the witness, certainly in no part that of the jury, as to the truth

sometimes by no means so bad a method of ascertaining the truth as physicians and other experts insist. The necessity which they constantly, I might almost say persistently, disregard, is of the constitutional function of the jury as the final arbiters of the fact. Used as they are to make investigations untrammelled by legal machinery, experts naturally find much annoyance in giving out their conclusions piecemeal and as answers to questions of monstrous length and complication. Yet there can be not the slightest question that except in so far as their conclusions are based on the facts proved they are improper, and that the only way of ascertaining upon what facts they are basing their judgment is to lay before them in detail what are those assumed facts. To permit them to give a general opinion is no less than to make them judges not only of the matters in which they are skilled as general propositions, but of the truth of the facts to which these propositions are applicable, as to which they are in no sense more competent to decide than laymen. I have personally, however, found it altogether impossible to convince many gentlemen of this very obvious necessity.

of which trained powers of observation are quite essential, the result themselves of a life of technical training. What hope have the jury, or any other layman, of a rational decision between two such conflicting statements each based upon such experience. If you would get at the truth in such cases, it must be through some one competent to decide.¹

This seems to me so entirely the source of the evil in the present system that I shall, even at the expense of some repetition, try to set it out more fully. We have seen that the expert is necessary and logical only to supply to the jury certain propositions of general applicability, or laws of nature, which are not the heritage of the ordinary man whom the jury, like the Greek chorus, heroically shadow forth. Knowledge of such general laws can be acquired only from a specialized experience such as the ordinary man does not possess, which must be either the experience of the expert directly or mediately from the experiments of other investigators. Therefore the validity of such laws or propositions can be tested, just as they themselves at the outset can be acquired, only by such as have possession of the specialized experience to which they relate either directly or mediately. The jury by hypothesis have no such experience directly, it being of a kind not possessed by ordinary men, and they cannot get it mediately, because the real acquisition of such experience involves a whole course of reading and practical experiment in the matter in hand, even to understand the terms or the methods of reaching conclusions. Therefore, when any conflict between really contradictory propositions arises, or any reconciliation between seemingly contradictory propositions is necessary, the jury is not a competent tribunal. Moreover, there can be no competent tribunal, except one composed of those who have possessed themselves of the specialized experience and the trained powers of observation necessary to bring to a valid test the truth of the various propositions offered.

What is it, then, that the jury need? A deliverance to them by some assisting judicial body of those general truths, applicable to the issue, which they may treat as final and decisive. Theirs is not, and in the nature of things cannot be, the function to decide

¹ I hasten here to add that this does not, as it may here seem to imply, involve any infringement upon that "palladium of our liberties," trial by jury. No such change would be possible to-day. Trial by jury, like universal suffrage, has come to stay, whether we like it or not; we shall be fortunate to retain the right of a judge to decide the facts in equity cases. I shall try later to show how what is suggested in the text may not infringe upon trial by jury.

between two sets of such truths ; they want that general rule on which they can rely, and that given, they can use it as they use other rules of inference.¹

One thing is certain, they will do no better with the so-called testimony of experts than without, except where it is unanimous. If the jury must decide between such they are as badly off as if they had none to help. The present system in the vast majority of cases — there being some dispute upon almost all subjects of human inquiry — is a practical closing of the doors of justice upon the use of specialized and scientific knowledge.

It is obvious that my path has led to a board of experts or a single expert, not called by either side, who shall advise the jury of the general propositions applicable to the case which lie within his province. The constitution of such an advisory tribunal is a matter which I shall not here discuss, as it is a question to be worked out very possibly in different ways at different places and times. But a few things, it seems to me, can be said.

First, to this tribunal would be transferred the present so-called expert evidence. Either side might call all the experts that money could procure or diligence discover, and put hypothetical questions for them to answer till the end of time. The right of cross-examination could be exercised without limitation. Only the difference would be that the final statement of what was true would be from the assisting tribunal.

One thing further, how of constitutionality ? Would it be constitutional to substitute such an advisory tribunal for the jury ? Two methods could be used, one to make its deliverances like findings of fact and decisive, to be taken *ex cathedra* by the jury as the judge's charge is to be taken ; the other, to leave to the august assemblage of our peers the sacred right of knocking their heads against the facts if they chose, and to regard the deliverances merely as "evidence" for them to "consider." I should certainly hesitate to call the first method constitutional, and at all events feel sure that the second is *safer*, undesirable though it be. Whether we like or not, our constitutions have the effect of perpetuating the institutions of the end of the eighteenth century in much detail, and while the question is one about which no one would wish to speak with certainty, it would seem that where the

¹ I would again call to mind the case of *Alsop v. Bowtrell*, Cro. Jac. 14, where the court learned the fact of the physicians, and, having satisfied *themselves* of its truth, told the jury that they might so find it. Truly we have not in all respects advanced in two hundred and eighty years.

jury had always had the function of deciding upon the whole issue, including whatever general propositions it implied and whatever specialized experience it might take, it might well be an abridgment of the institution to take from them the ultimate decision in so far as such specialized knowledge was necessary to a conclusion.

But though the second of the two methods above mentioned seems the only one certainly constitutional, and though it is in addition much the less desirable, there is by the happy genius of our English institutions a way of dodging a difficulty we have not the power to face ; because, though the deliverance of the tribunal of experts might well be subject to be overruled by the jury, it could only be so overruled where a reasonable man acting reasonably and with regard only to such part of the evidence as he should regard and such law as the judge gives him, could reasonably have come to the result reached. In other words, as is well known, the jury can decide only to the extent of the reasonable field of dispute, and if they have obviously reached a result not fairly within that field, their verdict is "against the evidence" and cannot stand. Now I fancy that were the decisions of the supposititious tribunal only "evidence for the jury to consider," it would none the less be such kind of evidence as would destroy any practical field of dispute regarding the propositions laid down. Whatever witnesses might be called by either side and however divergent their testimony *inter se*, when the tribunal had once spoken, I much suspect the court would find no reasonable man could doubt but that it was thence came the truth, and that the jury must act accordingly.

But even if this be not true, and even if the court should refuse in this indirect way to take the matters into its own hands, much would have been gained. One has only to notice the scrupulous impartiality as to giving any opinion on the facts that our American judges observe, and the immense power of the English bench — which freely expresses an opinion on the facts — in influencing verdicts, to realize how great is the effect upon the jury, confused by the arguments of the two contestants, of some really impartial expression of an opinion upon which they can rely. Particularly would this be true when it came from one who did know, about something of which they did not know. Then though they *might* refuse the "evidence," in fact, they would not do so, except where passion and bias were the basis of their verdict, cases which the courts can usually control by granting new trials.

Therefore it would seem that even without a change in our constitutions and without any aid from the judges there could be ac-

complished much of what is really necessary for the effective use of expert knowledge.

It is obvious that much detail must be carefully considered, in particular, just in what cases it shall be necessary to institute such an advisory tribunal. For example, the case of value is one where it might be held wiser to retain the present practice, though value is a conclusion from specialized experience. Such matters it would seem could most wisely be left to the courts to decide in each case. The rulings of individual judges would soon form a line of precedents which would much better establish the most practical line of division than could be done by any degree of detail in legislative enactment. So also of the questions of practice which would arise, as to the form of the deliverances of the expert to the jury, whether like the judge's charge or in other form, and other incidental points of practice. Unfortunately such matters would, in many of our states, probably be regulated by statute, did anything of the kind here suggested ever succeed in becoming law ; because to-day we have apparently forgotten that it is to the judge one should look for rules to regulate how judges and attorneys should act, not to the legislature.¹

Learned Hand.

ALBANY.

¹ Reprinted from the Albany Medical Annals, November, 1900.